

Appl. No.09/777,320
Amdt. Dated: April 22, 2003
Reply to Office Action of March 31, 2003

Listing of Claims

Cancel Claims 2, 26, and 53.

-1-(Currently Amended)

A composition for application to cultivated plants to control weeds comprising:

(a) at least one herbicide which is injurious to the cultivated plants selected from the group consisting of acetanilides, acetamides, acetolactate synthase inhibitors, isoxazoles, diketonitriles, triketonitriles dinitroanilines, triazines, substituted ureas, ethofumerates, isoxafen, oxodiazon, dithiopyr and combinations thereof; and

(b) repellent adjuvant selected from the group consisting of silane, silicone, siliconate and mixtures thereof which are organic for modifying surface properties of the composition so that retention of the composition on foliage of the cultivated plant is reduced, wherein the composition is applied in an aqueous solution as a spray and bounces off the plant into the soil and the composition to reduce herbicide injury to the cultivated plant by the herbicide and is effective from the soil around the plant to control the weeds.

-2-(Cancelled)

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-3-(Original)

The composition of Claim 1 wherein the composition further comprises a safener.

-4-(Previously Amended)

The composition of Claim 3 wherein the safener is selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane, 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidinyl]pyridine, 4-(dichloroacetyl)-1-oxa-4-azaspiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-tetrahydroquinaldine, 1,5-bis(dichloroacetyl)-1,5-diazacyclononane, 1-(dichloroacetyl)-1-azaspiro[4,4]nonane, and combinations thereof.

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-5- (Withdrawn)

-6- (Withdrawn)

-7- (Currently Amended)

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5 The composition of Claim 6 1 wherein the siliconate is an aqueous solution of the organosiliconate ~~is a solution~~ consisting essentially of 32 weight percent of the sodium methyl siliconate and 67 weight percent of water.

-8- (Cancelled)

-9- (Cancelled)

-10- (Cancelled)

-11- (Cancelled)

-12- (Previously Amended)

The method of Claim 1 wherein the repellent adjuvant is an aqueous solution of sodium methyl siliconate.

-13- (Original)

The composition of Claim 1 wherein the herbicide is an isoxazole herbicide.

-14- (Original)

The composition of Claim 13 wherein the herbicide is isoxaflutole.

-15- (Withdrawn)

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-16- (Withdrawn)

-17- (Withdrawn)

-18- (Previously Amended)

The composition of Claim 17 wherein the safener is selected from the group consisting of benoxacor, flurilazole, dichlormid and 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane.

-19- (Cancelled)

-20- (Original)

In a method for protecting crop plants including applying a herbicide formulation postemergence to the crop plant, the improvement comprising using as the herbicidal formulation a homogenous aqueous dispersion of the composition of Claim 1.

-21- (Currently Amended)

In a method for protecting crop plants including applying a herbicide formulation that has herbicidal activity from soil, the improvement comprising using as the herbicidal formulation a homogenous aqueous dispersion of the composition of Claim ~~2~~ 13.

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-22-(Original)

In a method for protecting crop plants including applying a herbicide formulation postemergence to the crop plants, the improvement comprising using as the herbicidal formulation a homogenous aqueous dispersion of the composition of Claim 4.

-23-(Original)

In a method for protecting crop plants including applying a herbicide formulation that has herbicidal activity from soil, the improvement comprising using as the herbicidal formulation a homogenous aqueous dispersion of the composition of Claim 12.

-24-(Currently Amended)

A method for controlling weeds around crop plants crop plants, the steps comprising:

(a) providing a herbicidal formulation comprising at least one herbicide which is injurious to the plants selected from the group consisting of acetanilides, acetamides, acetolactate synthase inhibitors, isoxazoles, diketonitriles, triketonitriles dinitroanilines, triazines, substituted ureas, ethofumerates, isoxafen, oxodiazon, dithiopyr and combinations thereof admixed with a repellent adjuvant selected from the group consisting of silane, silicone,

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15 siliconate and mixtures thereof which are organic wherein
the repellent adjuvant modifies surface properties of the
formulation thereby reducing retention of the formulation
on foliage of crop plants to reduce herbicide injury to
the crop plant by the herbicide but which is effective
from the soil; and

20 (b) applying the formulation in an aqueous
solution as a spray to the crop plants wherein the
formulation bounces off the foliage onto the soil to
control weeds around the plants without injuring the crop
plants.

-25-(Third Amended)

A method for controlling weeds around
turfgrass, the steps comprising:

5 (a) providing a liquid dispersion of a
herbicidal formulation comprising at least one herbicide
which is injurious to the turfgrass selected from the
group consisting of acetanilides, acetamides,
acetolactate synthase inhibitors, isoxazoles,
diketonitriles, triketonitriles dinitroanilines,
triazines, substituted ureas, ethofumerates, isoxafen,
10 oxodiazon, dithiopyr and combinations thereof admixed
with a repellent adjuvant which is an organosiliconate
wherein the repellent adjuvant modifies surface
properties of the formulation thereby reducing retention

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15 of the formulation on foliage of the turfgrass to reduce
herbicide injury to the turfgrass by the herbicide but
which is effective against the weeds from the soil; and

(b) applying the formulation in an aqueous
solution as a spray to the turfgrass wherein the
formulation bounces off the foliage onto the soil to
20 control the weeds in the turfgrass without injuring the
turfgrass.

-26-(Cancelled)

-27-(Original)

25 The method of Claim 24 or 25 wherein the
composition further comprises a safener.

-28-(Previously Amended)

30 The method of Claim 27 wherein the safener is
selected from the group consisting of 4-(dichloroacetyl)-
1-oxo-4-azaspiro-(4,5)-decane, 2,2-dichloro-N,N-di-2-
propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-
dimethyl-oxazolidine, 2,2,5-trimethyl-N-
dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-
dichloroacetyl oxazolidine, N,N-diallyl-2,2-
35 dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-
dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-
dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-
dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-
dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-

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- 40 (dichloroacetyl)-2,2-dimethyl-5-oxalidiny]pyridine, 4-
(dichloroacetyl)-1-oxa-4-azapiro-(4,5)-decane, 2,2-
dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-
isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-
2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-
45 tetrahydroquinaldine, 1,5-bis(dichloroacetyl)-1,5-
diazacyclononane, 1-(dichloroacetyl)-1-
azaspiro[4,4]nonane, and combinations thereof.

-29-(Withdrawn)

-30-(Withdrawn)

-31-(Withdrawn)

-32-(Cancelled)

-33-(Cancelled)

-34-(Cancelled)

-35-(Cancelled)

-36-(Withdrawn)

-37-(Withdrawn)

-38-(Withdrawn)

-39-(Withdrawn)

-40-(Original)

The method of Claim 24 or 25 wherein the
herbicide is an isoxazole herbicide.

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-41- (Original)

The method of Claim 40 wherein the herbicide is
isoxaflutole.

-42- (Original)

The method of Claim 24 or 25 wherein the
composition further comprises an oil-based adjuvant
selected from the group consisting of a crop oil
concentrate, a free fatty acid, an esterified and
saponified oil and combinations thereof.

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-43- (Original)

The method of Claim 42 wherein the herbicide is
selected from the group consisting of cyclohexanidione,
aryloxyphenoxy, imidazolinone, and sulfonylurea
herbicides.

-44- (Previously Amended)

The method of Claim 24 or 25 wherein the
composition further comprises a monosaccharide to
potentiate the effect of the herbicide in killing the
weeds without decreasing tolerance of the crop plant to
the herbicide.

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-45- (Cancelled)

-46- (Cancelled)

-47- (Cancelled)

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-48-(Cancelled)

-49-(Cancelled)

-50-(Cancelled)

-51-(Cancelled)

-52-(Cancelled)

-53-(Cancelled)

-54-(Cancelled)

-55-(Previously Amended)

The method of Claim 109 wherein the composition
further comprises a safener.

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-56- (Previously Amended)

The method of Claim 55 wherein the safener is selected from the group consisting of 4-(dichloroacetyl)-1-oxo-4-azaspiro-(4,5)-decane, 2,2-dichloro-N,N-di-2-propenylacetamide, 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyl-oxazolidine, 2,2,5-trimethyl-N-dichloroacetyloxazolidine, 2,2-dimethyl-5-phenyl-N-dichloroacetyl oxazolidine, N,N-diallyl-2,2-dichloroacetamide, 2,2-dimethyl-5(2-furanyl)-N-dichloroacetyl oxazolidine, 2,2-dimethyl-5(2-thienyl)-N-dichloroacetyl oxazolidine, 2,2-spirocyclohexy-N-dichloroacetyl oxazolidine, 4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine, 3-[3-(dichloroacetyl)-2,2-dimethyl-5-oxalidiny]pyridine, 4-(dichloroacetyl)-1-oxa-4-azaspiro-(4,5)-decane, 2,2-dichloro-1-(1,2,3,4-tetrahydro-1-methyl-2-isoquinolyl)ethanone, cis/trans-1,4-bis(dichloroacetyl)-2,5-dimethylpiperazine, N-(dichloroacetyl)-1,2,3,4-tetrahydroquinoline, 1,5-bis(dichloroacetyl)-1,5-diazacyclononane, 1-(dichloroacetyl)-1-azaspiro[4,4]nonane, and combinations thereof.

Claims 57 - 65 (Withdrawn)

Claim 66 (Canceled)

Claim 67 (Cancelled)

Claim 68 (Cancelled)

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Claim 69 (Cancelled)

Claim 70 (Cancelled)

Claims 71-108 (Withdrawn)

-109- (Currently Amended)

A method for applying one or more postemergence herbicides for controlling weeds to a crop plant without injuring the crop plant, the steps comprising:

5 (a) providing a composition as a formulation comprising at least one herbicide which is injurious to the crop plant selected from the group consisting of acetanilides, acetamides, acetolactate synthase inhibitors, isoxazoles, diketonitriles, triketonitriles dinitroanilines, triazines, substituted ureas, 10 ethofumerates, isoxafen, oxodiazon, dithiopyr and combinations thereof admixed with a repellent adjuvant wherein the repellent adjuvant modifies surface properties of the formulation which is in an aqueous solution thereby reducing retention of the formulation on 15 foliage of crop plants; and

(b) applying the formulation in the aqueous solution as a spray to the plants wherein the formulation bounces off the foliage onto the soil wherein the formulation controls the weeds without injuring the crop 20 plant.

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-110- (New)

A method for applying one or more postemergence herbicides for controlling weeds to a crop plant without injuring the crop plant, the steps comprising:

(a) providing a composition as a formulation comprising at least one herbicide selected from the group consisting of acetanilides, acetamides, acetolactate synthase inhibitors, isoxazoles, diketonitriles, triketonitriles dinitroanilines, triazines, substituted ureas, ethofumerates, isoxafen, oxodiazon, dithiopyr and combinations thereof admixed with a repellent adjuvant wherein the repellent adjuvant modifies surface properties of the formulation thereby reducing retention of the formulation on foliage of crop plants, wherein the repellent adjuvant is selected from the group consisting of an aqueous solution of sodium methyl siliconate and an aqueous solution of N-(2-aminoethyl)-3-aminopropyltrimethoxysilane and methyltrimethoxysilane; and

(b) applying the formulation to the plants wherein the formulation bounces off the foliage onto the soil wherein the formulation controls the weeds without injuring the crop plant.

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